

## **Racial Disparities in Lung Cancer Diagnosis and Treatment: A Single Center, Retrospective Study in Central Indiana**

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### **Background/Objective:**

Lung cancer is the second most common cancer and the leading cause of death from cancer in the United States. However, there is a disparity in incidence and mortality between African Americans and Caucasians. This study aims to analyze factors that could describe this difference, such as treatment, socioeconomic, or behavioral differences using information from an Indiana University Simon Cancer Center (IUSCC) lung cancer registry. We hypothesized that African Americans will have a higher lung cancer stage at diagnosis and mortality, associated with less timely, stage-appropriate treatment.

### **Methods:**

Using data collected from patients diagnosed with lung cancer at IUSCC from 2000-2016, we compared racial differences in diagnoses and subsequent management. Patients were categorized by race and clinical stage at diagnosis. Further categorization by sex, vital status, age at diagnosis, time from diagnosis to treatment and death, tobacco use, surgery, chemotherapy, insurance coverage, and histology was performed. We determined the rates of surgery or chemotherapy by stage at diagnosis. Statistical analyses are by student t-test or 2-way ANOVA.

### **Results:**

African Americans were younger than Caucasians at lung cancer diagnosis (average 63.4 vs. 61.2 years p-value < 0.001). African American race was associated with a longer time from diagnosis to treatment (36.4 vs. 32.1 days, p=0.023) and shorter time from diagnosis to death (475.1 vs. 623.7 days, p=0.001). The data suggests that African Americans have a later stage at diagnosis, are more likely to be uninsured and less likely to be covered by private insurance. The data suggests African Americans have a lower rate of surgery (Stages 1-3) and chemotherapy (Stages 3B and 4).

### **Conclusion and Potential Impact:**

This data suggests racial differences in lung cancer diagnosis, treatment and outcomes. Future analyses will focus on multiple comparisons to determine possible impacts of socioeconomic

and environmental factors on these outcomes at IUSCC and other university-affiliated health care systems.